0000 12279

CORRES CONTROL
OUTGOING LTR NO

DOE ORDER #
93 RF 13157

DIST	LTR	ENC
AMARAL, M E		
BENEDETTI, R L	X	
BENJAMIN, A		
BERMAN H S		
BRANCH D B		
CARNIVAL G J		
COPP R D		
DAVIS J G		
FERRERA D W		
HANNI B J		
HARMAN L K		
HEALY T J		
HEDAHL, T		
HILBIG J G		
KIRBY W A		
KUESTER A W		
MANN H P	X	
MARX G E		
McDONALD M M		
McKENNA, F G		
MONTROSE J K		
MORGAN R V		
POTTER G L		
PIZZUTO V M		
RILEY, J H		
RISING, T L		
SANDLIN, N B		
SETLOCK G H		
STEWART D L		
SULLIVAN M T		
SWANSON E R		
WILKINSON R B	X	
WILLIAMS S (ORC)		
WILSON J M		
WYANT R B		
Mast EC	X	
Busby WS	X	
Demos N	X	
Roebel K	X	
Horsten L	X	
Ericson D	X	
BWS File	X	
Record Ctr (2)	X	
CORRES CONTROL	X	X
ADMIN RECORD		
PATS/T130G		
TRAFFIC		

CLASSIFICATION

UCNI		
UNCLASSIFIED		
CONFIDENTIAL		
SECRET		

AUTHORIZED CLASSIFIER SIGNATURE
DOCUMENT CLASSIFICATION REVIEW WAIVER PER CLASSIFICATION OFFICE

DATE

IN REPLY TO RFP CC NO
N/A

ACTION ITEM STATUS
☐ PARTIAL/OPEN
☒ CLOSED

LTR APPROVALS
ECM

ORIG & TYPIST INITIALS
ECM/dmf

RF 16162 Rev 7/93)

EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC
ROCKY FLATS PLANT P O BOX 464, GOLDEN, COLORADO 80402 0464 • (303) 966 7000

October 25, 1993

93-RF-13157

Norma Castañeda
Operable Unit 6 Project Manager
Environmental Restoration Division
DOE, RFO

INDIVIDUAL HAZARDOUS SUBSTANCE SITE 141, SEWAGE TREATMENT PLANT, PAVING IMPROVEMENTS - PJL-008-93

The attached proposal is for minor construction activities at the Sewage Treatment Plant (STP) within the boundaries of individual hazardous substance site (IHSS) 141 An excavation is proposed covering an area of 34 square yards by 14 inches deep, for a total excavated volume of approximately 40 cubic yards of existing broken-up asphalt pavement and underlying base course and soil

The area being improved is located between two drying bed buildings at the STP where there is moderate fork lift and truck traffic Six inches of base course (gravel) and eight inches of concrete will replace the existing broken-up asphalt, base course and soil (for location see attachment)

All surficial soil sampling at IHSS 141 in support of the Remedial Investigation (RI) was completed in the spring of 1993 No surface soil samples were collected between the drying bed buildings

Prior to excavation, Facilities Project Management (FPM) will be required to

- Perform a FIDLER survey of the area to be excavated A FIDLER survey will also be performed during and after excavation and the results will be documented appropriately

- Collect surficial soil (grab) samples from three locations within the excavation boundaries (see map for approximate locations) The samples will be collected from immediately beneath the asphalt pavement Environmental Operations Management (EOM) will coordinate sampling activities These soil samples will be analyzed for the following

  - TAL Metals
  - Pesticides/PCBs
  - Gross alpha/beta
  - Uranium/Plutonium/Americium

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

A-OU6-000375

This suite of analytes corresponds to those in the Operable Unit (OU) 6 Work Plan and can be analyzed onsite by the 881 General Laboratory Excavation can begin after the samples have been collected

The material removed from the excavation (approximately 40 cubic yards) will be segregated into two mounds, one for asphalt and one with the base course material and soil The excavated material will be piled on to tarps and covered until characterized The location for the piles of excavated material is shown on the attached map The excavated material will stay within the boundaries of the IHSS Upon characterization, if the material is clean, it will be spread out, if contaminated, it will be containerized

If you have any questions regarding this letter, please call me at extension 8702, or E C Mast at extension 8589

EMast FOR
Peter J Laurin
OU 6 Project Manager
ERM/Remediation Project Management
EG&G Rocky Flats, Inc

dmf

Orig and 1 cc - N Castañeda

Attachments
As Stated

cc
R J Schassburger - DOE, RFO

ENVIRONMENTAL ASSESSMENT FOR CONSTRUCTION ACTIVITIES

Authorization No 305070
Reviewer Environmental Restoration Management/Facilities Operations Management (ERM/FOM), T891E, x5949
Date 10/8/93

OBJECTIVE:

Paving improvements - Sewage Treatment Plant

JOB DESCRIPTION:

Install new concrete pad at 995 building

ENVIRONMENTAL ASSESSMENT.

The proposed excavation/construction project is located in Individual Hazardous Substance Site (IHSS) # 141, Sludge Disposal, included in Operable Unit (OU) 6 (see attachment #1) The Sludge Drying Beds have overflowed at various times in the past, contaminating the soils in the area Some of the sludge waste contained plutonium contamination (see attachment #2)

Results of OU 6 remedial investigations are still pending, therefore no construction or excavation in this area is allowed at this time, since the various agencies (EPA and CDH) involved may require the removal of the soil in the contaminated area as a measure of remediation

Contact Pete Laurin, OU 6 Manager, x8702, D5481, for further information and as the contact with the agencies whose permission will be necessary to carry out the proposed project An early assessment may be expedited, allowing the completion of this project

WETLANDS AND ENDANGERED SPECIES.

Not applicable

The sludge from the December 1972 overflow was controlled with fill material which was drummed and shipped for off-site disposal. Airborne activity in subsequent months was monitored. In June 1973, air samples collected on East Perimeter Road were unusually high after the area had been disturbed by construction equipment preparing the road for re-asphalting. A report of the incident recommended that care should be exercised relating to dust-producing construction activities in the area.[3]

In July 1978, windblown sludge was identified as a long-standing problem and an investigation of using mesh cover for the beds followed.[6] In 1985, metal buildings were constructed around the beds to reduce windblown dispersal.[1]

Fate of Constituents Released to Environment

In July 1978, ambient air data indicated that the sludge drying beds were contributing a higher than normal concentration of plutonium in the air.[6] No documentation was found that further detailed the fate of constituents released to the environment. This IHSS is being studied in accordance with the IAG schedule for OU6 However, the information developed on this unit for this study indicates that the location of IHSS 141 presented in the IAG is inaccurate (see Comments) The IAG activities will include site investigations, site characterizations, and possible site remediation. The Final Phase I RFI/RI Report is to be completed by January 7, 1994 Additionally, the sludge drying bed area is being investigated in a separate action (see Comments)

Comments

The western boundary of this PAC is proposed to be extended to include the area of the sludge drying beds The beds are not lined with an impermeable layer and excess liquid from the sludge comes in direct contact with the underlying soil. In 1952, there were three sludge drying beds. Expansion in 1962 removed the westernmost bed and added three additional beds. Digester Number 2 is on the area of the removed bed. In 1985, two additional beds were added east of the existing beds and buildings were constructed around all of the beds to reduce the dispersal of sludge by the wind. One of the beds added in 1985 was lined with concrete after its construction.[1,7] In view of the physical configuration of the beds, including the soil beneath Digester Number 2, the potential for contamination of the soil and groundwater beneath the beds is considered to be high. The constituents in the sludge while in the drying beds is the same as the constituents introduced to the area due to airborne dispersion. For these reasons, the boundaries for IHSS 141 presented in the IAG should be extended to include the area of the beds and include that area in the RFI/RI studies

The impact the sludge drying beds have had on the environment is the subject of a study prompted by the March 1991 NPDES Federal Facilities Compliance Agreement. As a result, groundwater and vadose zone monitoring plans were developed and groundwater and soil water in the sludge drying bed area will be monitored.

References

[1] 1503359
[2] 1500381
[3] 1600007
[4] 1700474
[5] 1503357
[6] 1502698
[7] RFP Engineering Drawings D-13829-9, RF-95-Y1B and 28170-053

ATTACHMENT #2

PAC REFERENCE NUMBER: 900-141

IHSS Reference Number: 141, Operable Unit 6

Unit Name: Sludge Dispersal

Approximate Location. N750,500; E2,086,500

Date(s) of Operation or Occurrence

1952 - Present

Description of Operation or Occurrence

All material entering the sanitary sewer system is processed and one of the process byproducts is sludge Sludge produced in the wastewater treatment plant (Building 995) is placed in a series of gravel- and sand-lined drying beds until the solid to liquid ratio is greater than 43 percent by weight and is considered suitable for packaging and shipment offsite for disposal. The configuration of the beds has changed several times since 1952 but they have been in regular operation. There have been many incidents of the sludge in the beds overflowing toward East Perimeter Road. Because the beds were open to the atmosphere, sludge was noted to have become airborne and dispersed. The predominant direction of airborne sludge dispersal is to the east. In addition, the low-level sludge in the drying beds comes in contact with underlying soil which is predominantly fill material overlying claystone [1]

Wastes from the RFP sanitary sewer system enter the Building 995 treatment process which produces sludge The chemical characteristics of the sludge are reflective of the chemistry of the waste in the sanitary sewer system PAC 000-500 details routine and non-routine releases to the sanitary sewer system

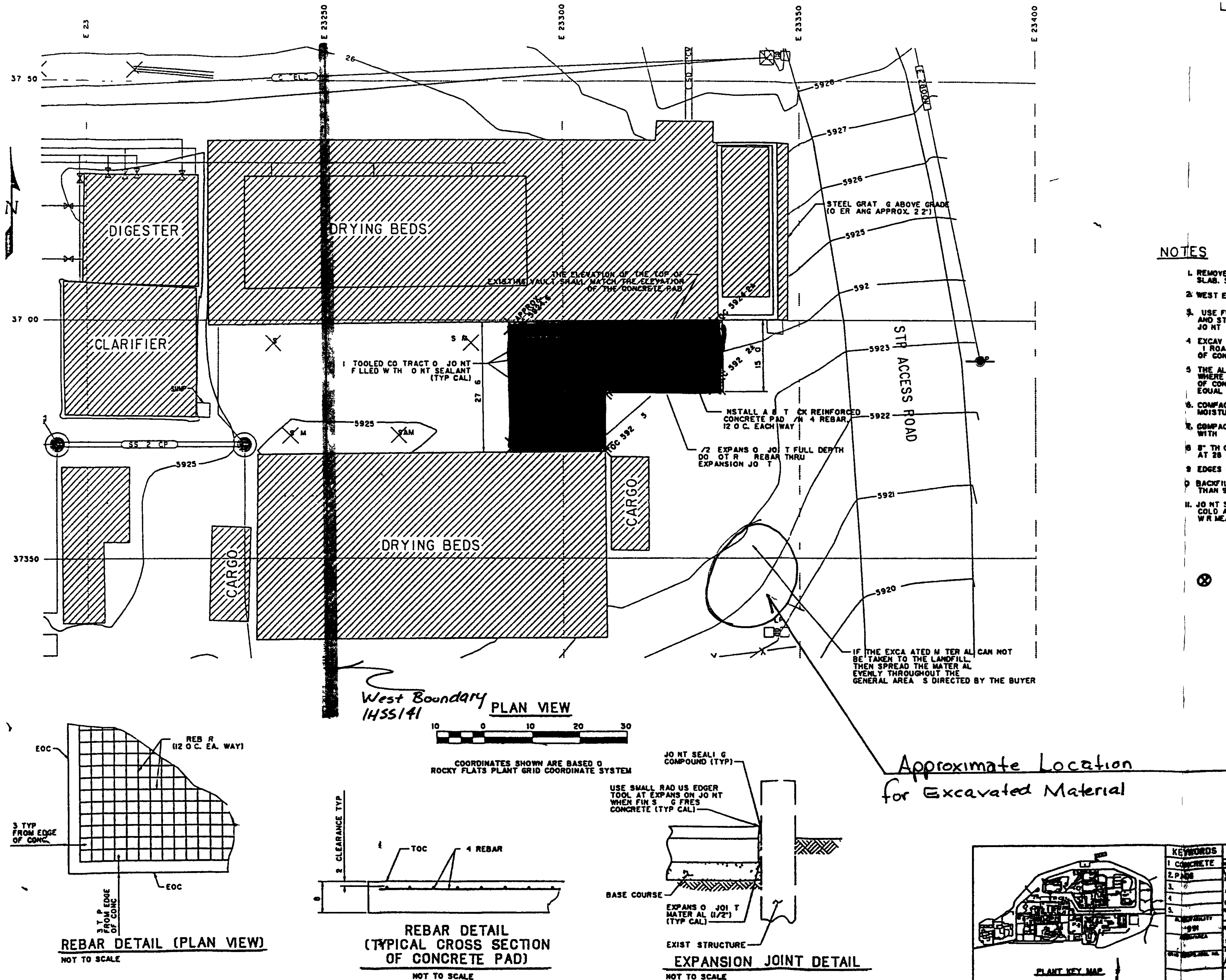
Several specific incidents have occurred when sludge overflowed from the drying beds or was dispersed by wind A spill occurred on February 4, 1955, which extended to East Perimeter Road. The event occurred while sludge was being pumped from the digester to a drying bed [2] On December 15, 1972, a plutonium-contaminated sludge spill occurred affecting the area from the sludge drying beds to East Perimeter Road.[3] In January 1982, sludge from three of the drying beds was blown out and dispersed during a windstorm.[4] On February 1, 1991, one of the sludge drying beds overflowed and sludge spilled down the hillside south of the drying beds to South Walnut Creek.[5]

Physical/Chemical Description of Constituents Released

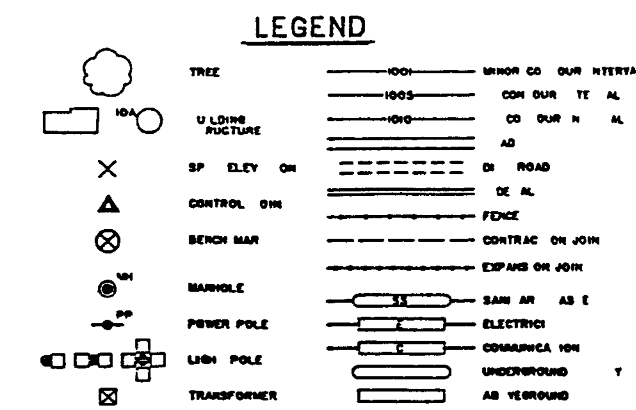
The sludge from the February 1955 overflow was reported from analysis to have approximately 1 1 x 10^6 dpm/kg The soil samples had an average contamination level of 3 1 x 10^5 dpm/kg [3] The sludge which blew out of the sludge drying beds in January 1982 varied in radioactivity from near background to approximately 1 2 x 10^6 dpm/kg [4]

Responses to Operation or Occurrence

Soil sampling of the area impacted by the February 1955 overflow was performed by collecting clay and gravel from the area.[2] The sludge which had spilled out of the beds was "largely" recovered.[2] An extensive surface soil sampling program was conducted in the sludge drying bed area in June 1955 The response to each documented overflow release has been to collect and dispose of the sludge



LEGEND



NOTES

1. REMOVE EXIST G ASPHALT AS ECESSAR TO INSTALL T E NEW CONCRETE SLAB. SAWCUT EXIST NG PAVEME T FOR WEST END OF NEW CONCRETE SLAB
2. WEST END OF NEW CONCRETE SLAB SHALL MATCH EXISTING GRADE.
3. USE FULL DEPTH 1/2"EXPANS ON JO NT MATERIAL AGAI ST EX ST G WALLS AND STRUCTURES AND WHERE S OWN O SLAB REMO E TOP /2 OF EXPANS ON JO NT TER AL AND FILL SPACE WITH JO NT SEALANT
4. EXCAV TE THE EXIST G AREA TO ALLOW FOR THE STALLAT O OF 6 CLASS I ROAD BASE MATER AL AND T E 8 TH CK CONCRETE PAD TO MATCH THE TOP OF CONCRETE (TOC) ELEVAT ON AS SHOWN.
5. THE ALLOW BLE TOLERANCE FOR T E ELEVAT O OF TOC IS ±0 2 EXCEPT WHERE CO CRETE MUST MATCH EX STI G GRADES/ELEV T O S T E SLOPE OF CONCRETE P D S ALL BE GREATER T AN /2% AND LESS THAN OR EQUAL TO 1% T E WEST TO EAST DIRECTION.
6. COMPACTION OF SUBGRADE S ALL BE EQUAL TO OR GREATER THAN 90% W T MOISTURE CONTENT WITHIN ±2% OPTIMUM.
7. COMPACT ON OF CLASS ROAD BASE SHALL BE 95% WITH MOISTURE CONTE T WITH ±2% OPT MUM.
8. 8" TH CK CONCRETE PAD S ALL BE 4000p i COMPRESS VE STRENGTH CONCRETE AT 28 D S
9. EDGES OF ALL CO CRETE SHALL BE TOOLED WITH 1/2"RADIUS EDGER TOOL
10. BACKFILL TO TOP EDGE O SLAB WHERE EXCA ATED AND COMPACT TO GREATER THAN 90% WITH MO STURE CO TE T W TH ±2% OPT MUM.
11. JO NT SEALANT FOR CONCRETE JO TS S L BE PO RTHANE SE NT 2 AR COLD AP LIED JO T SE LANT ELASTOMER C. S MANUFACTURED B W R MEADOWS C. MEETI G ASTM C920 TYPE M. GRADE P CLASS 25

⊗ Grab Sample Locat ons

PLANT KEY MAP

KEYWORDS
1 CONCRETE
2 PADS

A	ORIGINAL ISSUE		2-30-93		
	DESIGNED		9/14/93		
	DRAWN		9/14/93		
	CHECKED		9/16/93		
	APPROVED		4-15-93		

SCALE: 1"=10'-0"

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS OFFICE GOLDEN, COLORADO

Rocky Fl t Plant
OLDEN, COLORADO

STP (Phas I)
Proposed Concr t Pad

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	50919-100	A	1 of 1

305070

COMPUTER GENERATED